

4. That the Bee-grubbs actually feed on Mites, there being no other food for them.

5. That there are other species of Bees or Wasps besides those by me described; which are sometimes found to make these Mites their food: Dr. *Johnson* having open'd one Husk, with one only large Maggot in it.

6. That there are probably different sorts of Mites in these Husks, making possibly different species of Kermes: For, some I have found to hold Carnation colour'd Mites, enclosed in a fine white Cotton, the whole Husk starting from the Twigg, shrivelling up, and serving only for a Cap or Cover to that company of Mites. Other Mites I have seen white, and (which is most usual) the Husks continuing intire and not coming away from the Twigg they adhere to, and but little Cotton at the bottom. Those of the first sort are the white Cob-webbs on the Vine, described by Mr. *Hook* *Micrograph. Obs.* 56.

7. That the shrivell'd Cap to be found upon the Mites enclosed in Cotton, as also the whole Husk itself, if taken early in April, while soft, will, dried in the Sun, shrink into the very figure of *Cochineil*: Whence we guess, that *Cochineil* may be a sort of *Kermes*, taken thus early and sun-dried.

Hitherto this Summers Notes concerning *Kermes*. This advantage at least we may have by them; that the account, taken from M. *Verney* by Dr. *Creon*, and

See Numb. 20. p. 362.

publish't in one of the *Transactions*,* is made more intelligible: the small scarlet powder, there mention'd, being to be understood of those Mites; and they to be distinguish't from the Bee-grubbs, which are chang'd into the Skipping Fly, that is, the Bee, (for kind at least) by us described formerly, I am, &c. York Octob. 9. 1671.

An Extract of a Letter Written to the Publisher by Mr. Thomas Platt, from Florence, August 6. 1672. concerning some Experiments, there made upon Vipers, since Monsr. Charas his Reply to the Letter written by Signor Francesco Redi to Monsieur Bourdelot and Monsieur Morus.

Sir,

I shall begin with telling you, that in a Conversation last Winter, where I had the good fortune to make one of the number, the discourse was of an Opinion of M. *Dela Chambre*, who, to

to prove that the Spirits are animated, alledges, among other arguments, their Aptness to discern; by which he supposes, that in the heat of their anger they gather the Poison from the several parts of the blood, and therewith convey themselves to the teeth of the irritated animal, from whence they are afterwards transfused into the wound by biting. This conceit was by some of the Company received with much applause, because they knew, how difficult a thing it was, to come to an explanation of that poison, which *M. Dela Chambre* makes mention of in general, That the spirits proceed from the Blood of the irritated animal. So they agreed, *paucis mutatis*, hence to frame a new *Hypothesis*, saying, That such poison is nothing else but a new and malignant activity of the same Spirits whilst they are vexed and bent towards revenge; asserting the truth of such Ideal effects with divers examples, as that of the Toad, the Weasel, the Mad Dog, the Spider of *Puglia*, &c. which were all found very weak and un-concluding.

Wherefore most of the Gentlemen did incline to entertain *Monf. Dela Chambre's* first fundamental Opinion, since at least that supposes, That those Animals, that poison by their biting, have already a real poyson within themselves, and that Anger works no other effect, but to gather all the venomous parts together in one particular place, whence they may easily be instill'd into the wounds, made by the teeth.

For all this, (as it most commonly happens in such discourses,) everyone remain'd in his own Opinion; and mention having been made of that of *Signor Redi's*, held in his Book of *Vipers*, which for several years pass'd in this Country almost for an undoubted truth, *viz.* That the *Vipers* poison consists in some thing, incompatible with this new allay of *M. dela Chambre's* opinion, reduced to the irritated Spirits, though not with that of his, which is taken purely from its first grounds: This gave occasion to a new debate concerning the validity of *Sinnor Redi's* Assertion, so generally received here: some saying, it would do well to examine the grounds of it. Upon this it was resolv'd, that all might be satisfied, to come to a tryal as soon as the Spring would give leave to *Vipers* to appear abroad.

Now, Sir, you must know, that being at the house of *Sign. Magalotti* on the 2d of *June* last, there came *Dr. Francini*, who had formerly been one of the most resolute Assertors of this

opinion of Signor *Redi* concerning the Poison of Vipers ; and being come he sent to his lodging for a Box, in which there were a great many heads cut off, that morning, of Vipers lately come from *Naples*. He immediately desired to have some Animals to begin his Experiments upon ; but there being at that time no other company with Signor *Magalotti* but his brother and I, it was thought fit to stay till next morning, that those Gentlemen, who were at the dispute last Winter, might be present, as it fell out they were.

I, that had not so much patience, desired the Doctor to make at least one experiment ; which being granted, Signor *Magalotti* was pleased to send to the publick Market for a couple of Pigeons, to be sure of having some, that were not prevented by any Antidote. The Pigeons being come, the first was wounded with the Teeth of a Vipers head that had been cut off about 7 or 8 a clock the same morning. The way of making the wound was, by thrusting twice the Master-teeth into the fleshy part of the Pigeons breast, till such time as pressing the upper part of the Jaw, the two little bladders, that serve as gums to the teeth, did empty out upon the wound some of that yellow liquor, which here is suppos'd to be the true and only poison of the Viper. This Pigeon being thus bit, and set upon the ground, began to stagger immediately, and dyed in less then 3 or 4 minutes. The second Pigeon was wounded in the same manner ; but at the first wound there only entered one of the teeth, which brought forth a great deal of blood ; the second time they both enter'd, and this had the same fate, with this difference only, that he languish'd half a quarter of an hour.

The next morning there met at Signor *Magalotti's* Chambers, besides the company of the day before, Signor *Carlo Dati*, Sign. *Vincenzo Viviani*, Sign. *Paolo dell Ara*. Dr. *Savona*, Dr. *Neri*, Dr. *Fabrini*, and some others. Whereupon six Pigeons and a Cock having been brought ; the first thing that Dr. *Francini* did, was, to thrust several thorns of Rose-shrubbs into the breast of one of those Pigeons, to manifest, that such accidents, as might befall those that should be wounded by the Teeth of the dead Vipers, were not meerly caused by the wound. And whereas one of the company began to make some nice reflexions, and to take some of the heads to measure the just proportions of their

their teeth, to see what difference there might be betwixt them and the thorns, this made the Doctor loose patience; and soon taking a pin, which was none of the least, he gave to the first Pigeon; that he could lay hands on, a very deep wound in the breast, which no sooner was got free but began to leap & frisk about the room, as if it had not been concern'd in the least.

After this, they began in good earnest. For another Pigeon was taken and bit in the breast by both the Master-teeth of a Vipers head, that had been cut off the morning before; the execution being exactly like that of the day before. The effect was, that the Pigeon had the same shaking fits; after which falling upon his belly he died, giving signes a little before of a painful Agony, by his often gaping. His end was not only very sensible to him, but also more tedious than that of the other day; for, this lived 5 or 6 minutes after his wound. Another having been serv'd after the same manner with another head, had the like accidents, and died within a quarter of an hour: This Observation was made on this other, that his wound let out a great deal of blood; whereas not so much as one drop was seen to come out of any of the others.

All this appearing as yet but little to the Doctor, to exclude the doctrine of Spirits, which now began to loose ground after so many experiments of *Dead Vipers* heads; he took three stalks out of a Broom, and having smoothed them, and sharpn'd them at the ends after the manner of a Lancet, he drew from the gums of several heads enough of that yellow juice to dawbe two of those stalkes; which, being thus moistned with that liquor, were both put into the breasts of two Pigeons, and there left; the like having been done to another with the 3^d stalk not cover'd with that juice, which was at least one third part bigger and longer than the other two. In a word, the two first died within 4 or 5 minutes, and the last continues to this very day in Signor *Magalotti's* Pigeon-house as brisk and as fat as ever; his wound in his breast, instead of having caused an Inflammation, is now almost perfectly healed.

Whilst these Experiments were making, it came into the heads of some to try another, upon the relation that Sign. *Paolo dell' Ara* (lately come from *Paris*) had made; which was, that some had asserted there, that, to swallow a Vipers head was a most certain Preservative and Remedy against the biting of a
Viper

Viper. Dr. *Francini* smiled at that phancy ; but to give full satisfaction about it, he made two experiments. The one was, by making the Cock that was there to swallow a Vipers head, and then causing him to be well bitten in both thighs by a live one. But the Cock continuing some time before he gave any signs of sickness ; not to loose time, he pass'd to the other experiment, by thrusting the Teeth of a dead Vipers head into another pigeon, that had before got down one of those heads into his belly. The conclusion was, that both dyed, the Cock within a quarter of an hour, & the Pigeon in less than 4 minutes.

The news of these Experiments made many persons curious to see them perform'd once more ; so that, some few days after, a rendezvous was made in Sign. *Magalotti's* Garden, where, besides the forenamed persons, met Mr. *Thomas Frederick*, Mr. *John Godscall* (two English Gentlemen,) Abbot *Strozzi* (his Most Christian Majesties Publick Minister in this Court,) Sign. *Paolo Falcomieri* (first Gentleman of the Bed chamber to the G. Duke) Sign. *Luigi del Riccio*, Mons. *Pelletier*, Mons. *Morelle* (the one Physitian, and the other Chirurgion to the G. Dutches,) Dr. *Gornia* Physitian in Ordinary to his Highness, Dr. *Bellini* Professor of Anatomy at *Pisa*, Sign. *Lorenzo Lorenzini* a Mathematician, and Sign. *Pietro Salvetti*.

But by the by, give me leave to tell you (for some diversion,) that this Sign. *Salvetti*, who is one of the G. Dukes Musicians, & plays on all Bow-Instruments, invented about 4 years ago a New tuning of the Antient *Lira Viol* with the usual 13 strings ; by means of which tuning it is rendered wholly perfect, so that you may express upon it all Concorde, Discorde, and also the imperfect Concorde, as seventh, sixth, &c. as well as upon any Virginal that hath the quarters of Notes upon it. 'Tis true, 'tis only for Melancholly and passionat matter, and not for diversion, as is the proper nature of the *Lira*. I shall only add, that with the abovesaid tuning he ascends in *Alte* as high as G, Sol, Re, Ut ; and descends as low as double C, Sol, fa, ut ; and can make every where the same Concorde as above.

This same person having applied himself to the study of the Mathematicks, and particularly about the Proportions of Harmony, relating to his profession of Musick, began to delight himself in Opticks and other parts : And not being content with the Theory, he went on to put it in practice by making Telescopes
of

of divers sizes, as also Microscopes, in imitation of those of *Divini* and *Campani*. And I can tell you, that he lately shew'd one of his Microscopes to the G. Duke, which was judged by all much better than any of the best his Highness hath; and I was an eye-witness to this, that for magnifying, defining, and clearness, it was found very excellent. The same day he likewise shew'd his Highness a little Prospective Glass, made according to Mr. *Newtons* new Invention; and though this was but the first, and was not above half a foot long, it had the same effect of one of two. He is now making another after the conceit of M. *Casségrain*, though he agrees not with him in making convex the little Speculum, which one looks into through the Eye-glass; but believes, the French Author only devised that to disguise as much as was possible his pretended New Invention, which he endeavors to make anterior to Mr. *Newtons* most noble one. For the rest, he thinks he hath found a way of making Objects seem right with one only glass.

But, to return from this digression to our first discourse, you may take notice, that the Assembly at Signor *Magalotti's*, having been first inform'd by Dr. *Francini* of the grounds of this dispute and of the former Observations, he began the same experiments by causing 2 Pigeons to be bit by a Vipers head that had been dead above ten hours, in such a manner that by pressing the gums some of that yellow liquor might drop into the wound. They both died, one in 6 minutes, and the other in 8; and not being content with this, with another Vipers head they poison'd a Chicken, which died in 10 minutes. There appear'd afterwards another Pigeon, that had been wounded, many hours before, by a dead Vipers head; but it had been dead so long, that the liquor, quite dried up in the gums, was become so hard, that for all the squeezing of it nothing would come to the teeth; whence this Pigeon was very well: And Dr. *Francini* having caused the same bird to be bit again by the same dried head, it had after a little fluttering with his wings, whilst the pain of the biting lasted, no other harm.

A live Viper then being taken, 4 Chickens were bit by it one after another. The two first, either because the liquor did not penetrate into the wound, or the blood expelled it, appear'd not to have any distemper. The 4th look'd as if it would dye presently; but a little after coming to himself he got clear
off

off for that time. But the third, who seem'd at first to be very lively, dyed within an hour and an half.

There being afterwards a young Bitch brought in of a pretty size, she was bit twice by a live Viper in the middle of the hanging part of the ear. Whereupon she very soon began to give mortal signs, by staggering, vomiting and being convulsed; after which having a little recover'd her self, the same accidents return'd upon her, by which she was reduced to such a grievous condition, that four hours after her being bit she could not stir any more, and seem'd just as if she had been dead, holding out her tongue, and looking very gashly, without any other sign of life than that of painful breathing; to which she added sometimes a faint barking and a languishing howling. In which condition she was still found next morning, only her respiration was yet weaker, and she appearing just a drawing to her end. It was observ'd, that no part of her body was swell'd, nor had any spot upon it. She had voided backward some matter of a very black colour, of which her hind parts being very foul, a swarm of Gnats and Wasps were devouring her alive: Which mov'd one of the servants of the house, to knock her in the head.

After this, there were bit two Capons and a Pullet by a fresh Viper, vexed a purpose; and, because they gave not then any signs of being ill, they were sent back to their coops, and there having continued well till evening, they were surpris'd at night by a distemper, which in all likelyhood proceeded from the poison; for next morning one of the Capons and the Pullet were found dead.

I must not forget to tell you, that the last thing that was done, was, the sending to the Pigeon-house for that Pigeon, that had in his breast the stalk that had not been imbued by the yellow liquor; where he had been kept during all that interval of time, from the first experiments to these last; being now found by all not only very lively, but also in a thriving condition. The place of his wound being search't, the stalk was easily felt, and was, before the eyes of all the company, with a little pair of Pinchers drawn out.

This is, *Sir*, what I can confidently affirm to have been an eye-witness of; and it being not my business to make reflections upon these experiments, I leave that to you. I know, I have not said any thing but what will be most amply found in Sign. *Redi's* first and 2d. book; but that, which urg'd me to make this repetition, was the thoughts that it might be acceptable to you, to see his Assertions confirmed by the Testimonies of so many persons, that are the more able to be judges of them, because their understandings are such, that 'tis not possible to impose upon them.

If I may be so happy as to receive sometimes from you an account of the Curious performances of your famous *Royal Society*, I shall make use of that favour, to animate the *Virtuosi* here to do something that may not be unworthy of your knowledge: But before you afford me this honor, I must first beseech you to lay your commands on me, by the execution of which you shall plainly see, with how much reality I am, &c.

Dr. John